



# Forest Health Protection Pacific Southwest Region



Date: October 17, 2011

File Code: 3420

**To: District Ranger, Salmon River Ranger District, Klamath National Forest**

**Subject: Evaluation of bark beetle activity in the Dogpaw Plantation Thinning Project (FHP Report N11-08)**

At the request of Dave Burgess, District Silviculturist, a field evaluation of the Dogpaw Plantation Thinning Project was conducted on June 1, 2011. The objectives were to assess the current stand conditions, evaluate the project for potential funding through the Forest Health Protection (FHP) Western Bark Beetle Initiative. Roger Siemers (Klamath NF), Dave Burgess (Klamath NF), Cynthia Snyder (FHP) and Pete Angwin (FHP) were in attendance.

## **Background**

The 23 acre Dogpaw Plantation Project is along the northern edge of the 101 acre Dogpaw Plantation located in the Dogpaw Creek drainage 12 miles west of the community of Callahan (T39N, R10W, Mt. Diablo Meridian, sections 22 and 23). This plantation was established in 1960 following the 1955 Trail Creek wildfire. The area east of the plantation, Trail Creek summit, is heavily used by backcountry skiers and snowboarders in the winter months. Elevation is between 4,400-4,800 feet and precipitation for the site averages between 35-45 inches per year.



**Figure 1. The Dogpaw Plantation is an overly dense ponderosa pine plantation.**

This plantation is primarily ponderosa pine (*Pinus ponderosa*), with a possible mix of Jeffery pine (*P. jefferyii*) and ingrowth of incense cedar (*Calocedrus decurrens*), Douglas-fir (*Pseudotsuga menziesii*) and California black oak (*Quercus kelloggii*). Stand density index is approximately 378, well over the threshold of imminent bark beetle risk for ponderosa pine plantations of 230. There are approximately 700 trees per acre (633 conifers and 67 hardwoods). The average diameter is 5.7 inches at breast height for conifers; in all there are 89 trees per acre over 10 inches in diameter.

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## **Observations**

The project includes commercial and non-commercial thinning. There is evidence of past western pine beetle (*Dendroctonus brevicomis*) activity with small pockets of mortality in surrounding stands. Stands are in an overstocked (SDI 378), high hazard condition in terms of their susceptibility to future successful bark beetle attacks. There are pockets of snow damage, as evidenced by broken tops, in 8 inch pines and some oak. There is also evidence of western dwarf mistletoe (*Arceuthobium campylopodum*) on ponderosa pine. Although evidence of infection is low, this is an added stressor on pines already suited to western pine beetle.



**Figure 2. Modest tree mortality in the Dogpaw Plantation.**

## **Discussion**

The previously treated portion of the plantation has been thinned to 30 foot spacing as described in the Dogpaw Plantation Thin Decision Memo signed in May 2008. The portion currently proposed is planned to be thinned to only about 24 foot spacing (76 trees per acre) up to 10 inches DBH. This is less than the original 30 foot spacing due to the greater number of trees over 10 inches. Priority will be to remove bark beetle killed trees and remove mistletoe infected overstory. Species diversity will be maintained by favoring Douglas-fir and incense cedar over pine and maintaining the oak component.

Currently, Northern California is experiencing higher than normal precipitation including snowpack levels. This has reduced bark beetle mortality in stands with endemic western pine beetle populations. The sites within the Dogpaw Project are fully stocked with ponderosa pine. There is currently an opportunity to significantly reduce the amount of susceptible pine within the stand, reduce overall stand density to a sustainable level, maintain species diversity and meet other management objectives such as maintaining the oak component for wildlife.

## **Summary**

The proposed treatments, if fully implemented, will be effective in addressing concerns regarding bark beetles, fire and drought, and will meet the Regional Forester's density management policy that high risk density levels will not be reached again for at least 20 years. I fully support the treatments as described.

If you have any questions regarding this report and/or need additional information please contact Cynthia Snyder at 530-226-2437 or Pete Angwin at 530-226-2436.

/s/ Cynthia Snyder

Cynthia Snyder, Entomologist  
Northern California Shared Service Area

CC: Dave Burgess, Carl Varak, Roger Siemers, Ann Mileck, Pete Angwin, Sheri Smith,  
Julie Lydick and Phil Cannon

**Table 1 Supporting Details Table**

Supporting Details	
Forest Type	Plantation
Location	Matrix forest in the Dogpaw and Trail Creek drainages
Risk Map	Moderate to high risk for bark beetle mortality
Watershed Classification	Not in a priority watershed
Landscape Treatment	Adjacent 40 acres have treatment completed and have much less damage present
Proposed Treatment	Hand cut to 20' x 20' / 109 TPA and handpile slash on 23 acres
NEPA	Dogpaw Plantation Thin signed May 14, 2008
Proposed Acres	23
Requested Funding	\$19,504
Total Cost Per Acre	\$848
Matching Funding	none
Species Composition	PP with some DF, IC, Oak
Current Diameters	2-14 (average 6 inches)
Residual Diameters	6-18 (average 8 inches)
Current Stocking	SDI 378
Target Stocking	SDI 129
Agents of Concern	Western pine beetle
Recent Activity	Western pine beetle in over-stocked stands, pockets of snow breakage, dwarf mistletoe may increase stress
Current Susceptibility	High due to overstocking